

REMARKS

Please reconsider the application in view of the foregoing amendments and following remarks.

Status of Claims

Claims 1-4 are pending in the present application. Claim 3 is herein amended. No new matter has been entered.

Claim Rejections - 35 U.S.C. §101

On page 2, item 2 of the Office Action, the Examiner has rejected claim 3 under 35 U.S.C. §101 because claim 3 is directed to software *per se*. Applicants have amended claim 3 in order to overcome this rejection.

The Examiner has rejected claim 1 under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. The Examiner contends that “[w]hile the claims recite a series of steps or acts to be performed, a statutory ‘process’ under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the

claimed method steps, and therefore do not qualify as a statutory process.” Applicants respectfully traverse this rejection.

It is true that the transformation or reduction of the article or workpiece to a different state or thing is the essence of a method claim and the key to its patentability as the Examiner notes above. **However**, it is respectfully submitted that the preamble of claim 1 does recite a transformation of a workpiece to a different state. For example, the Preamble of claim 1 states: *“A method of correcting [transformation to a different state] shifts in position and attitude of an object [Workpiece] which is held by a holding member and to which fiducial mark 1 and fiducial mark 2 are applied...”* In other words, the above method does not pre-empt the transformation to a different state of the same workpiece other than in a manner recited in by claim 1. Therefore, Applicant’s respectfully submit that the rejection under §101 is improper and request that it be withdrawn.

As to the Merits:

Claims 1 and 3-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Magome et al.** (US 5,489,986) in view of **Nishi** (US 5,489,986).

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over **Magome et al.** (US 5,489,986) and **Nishi** (US 5,243,195) in view of **Kocher** (US 2003/0228697 A1).

Each of these rejections is respectfully traversed.

Claim Rejections - 35 U.S.C. §103

Independent claims 1, 3 and 4

Claim 1, as amended, is directed to ... *rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane; obtaining a position data of the fiducial mark 2 by image-processing the fiducial mark 2 rotated by 180 degrees; and operating, on the basis of the position data of the fiducial mark 1 and the fiducial mark 2 rotated by 180 degrees, an amount of position shift from a rotational center of the holding member to a center of the object to be held and an amount of angle shift of the object in a horizontal plane with respect to a fiducial line of the holding member.*

Claim 3, as amended, is directed to ... *a sequence for rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane; a sequence for obtaining a position data of the fiducial mark 2 rotated by 180 degrees; and a sequence for executing an operation, on the basis of the position data of the fiducial mark 1 and the fiducial mark 2 rotated by 180 degrees, for calculating an amount of position shift from a rotational center of the holding member to a center of the object to be held and calculating an amount of angle shift of the object in a horizontal plane with respect to a fiducial line of the holding member.*

Claim 4, as amended, is directed to ... *a rotating mechanism for rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane; and an operation unit for operating, on the basis of the position data of the fiducial mark 1 and the fiducial mark 2 rotated by 180 degrees, an amount of position shift from a rotational center of*

the holding member to a center of the object to be held and an amount of angle shift of the object in a horizontal plane with respect to a fiducial line of the holding member.

For example, as illustrated in at least Figs. 5-8 of the present specification, “[...] the head 7 held by the holding member 18 is first conveyed, and the fiducial mark 1 (FM1) marked to the head 7 is moved onto the head imaging device 10 (step S1). Next, the image processing unit 43 processes the image of the fiducial mark 1 (FM1) so as to obtain the position data of the fiducial mark 1 (FM1). For example, this position data is obtained as position (positional) shift amount ($\Delta x1$, $\Delta y1$) displaced from the fiducial mark 1' (FM1') of the fiducial position 7'. The computer 41 reads in this position data of the fiducial mark 1 (FM1) calculated by the image processing unit 43 (step S2). In the next step, **the holding member 18 holding the head 7 is rotated substantially by 180 degrees in the horizontal plane without moving in the X-axis and Y-axis directions** (step S3). At this moment, the fiducial mark 2 (FM2) is moved, as shown in FIG. 8, to a position FM2'' which is point-symmetric with the rotational center O' of the holding member 18. At this time, the image processing unit 43 processes the image of the fiducial mark 2 (FM2) so as to obtain the position data of the fiducial mark 2 (FM2'') which is rotated by 180 degrees. For example, this position data is obtained as position shift amount ($\Delta x2$, $\Delta y2$) displaced from the fiducial mark 1' (FM1') of the fiducial position 7'. The computer 41 reads in this position data of the fiducial mark 2 (FM2'') calculated by the image processing unit 43 (step S4). Next, on the basis of the position data of the fiducial mark 1 (FM1) and the above-mentioned fiducial mark 2 (FM2'') which is rotated by 180 degrees, the position shift amount from the rotational center O' of the holding member 18 to the center of the head 7 and the angle

(angular) shift amount of the object to be held, in the horizontal plane, with respect to the fiducial line of the holding member are operated (step S5).”

With regards to claims 1, 3 and 4, on page 4 -6 of the Office Action, the Examiner asserts: rotating (column 17 lines 1-30 discloses drive motor in direction and z direction, where all three direction is rotation) the holding member (figure 1 part 4 is the holding member) holding the object (figure 1 part 4) to be held substantially by 180 degrees (figure 1 part 5 discloses a stage that is able to move and rotate in the x, y and z direction such that rotation in 180 degree is possible. Although, the exact 180 degree is not express, this is a range that is able to be obtaining by this device. Also having the exact 180 degree is not needed since correction of position can vary and change and having a stage that can perform all angles give the user and device better range of movement for better alignment.) in a horizontal plane (figure I, column 17 discloses detecting relevant position in the horizontal plane in the x, y and rotating direction)”

It is respectfully submitted that the Examiner is mis-characterizing the limitations of Magome reference for the following reasons:

In column 17, lines 2-5, Magome discloses the following:

“[t]he wafer 4 is held under suction on a stage 5 which is not only two-dimensionally **movable in the x- and y-directions** using the step and repeat technique, but also **finely movable in the z-direction.**” (emphasis added)

This means that, in Magome, the stage 5 can be moved side to side along the X-axis direction in a XY-plane. The stage 5 can also be moved side to side along the Y-axis

direction, orthogonal to X-axis direction, in the XY-plane. Finally, the stage 5 can also be moved vertically up or down in a Z-axis direction orthogonally to XY-plane.

However, Magome does not teach or suggest rotating the stage 5 in a horizontal plane because Magome is limited to following values in a three dimensional coordinate system: (+X, +Y, +Z), (+X, +Y, -Z), (-X, +Y, +Z), (+X, +Y, -Z), (-X, -Y, +Z), (-X, -Y, -Z), (+X, -Y, +Z) and (+X, -Y, -Z), all of which are linear movements and NOT rotational movement along the horizontal plane.

Therefore, Applicants submit that Magome does not teach of suggest *rotating the holding member holding the object to be held substantially by 180 degrees in a horizontal plane; obtaining a position data of the fiducial mark 2 by image-processing the fiducial mark 2 rotated by 180 degrees; and operating, on the basis of the position data of the fiducial mark 1 and the fiducial mark 2 rotated by 180 degrees, an amount of position shift from a rotational center of the holding member to a center of the object to be held and an amount of angle shift of the object in a horizontal plane with respect to a fiducial line of the holding member* as recited in claim 1.

Because the proposed combination of Magome and Nishi does not teach or suggest at least the aforesaid claimed elements and limitations in claims 1, 3 and 4, Applicants submit that claims 1-4 would not have been obvious over these references and, accordingly, request that the rejection under 35 U.S.C. 103 be withdrawn.

The Claims have been shown to be allowable over the prior art. Applicants believe that this paper is responsive to each and every ground of rejection cited in the Office Action dated

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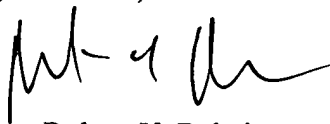
Amendment under 37 CFR §1.111
Attorney Docket No.: 052193

October 24, 2008, and respectfully request favorable action in this application. The Examiner is invited to telephone the undersigned, applicants' attorney of record, to facilitate advancement of the present application.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP

A handwritten signature in black ink, appearing to read 'R. Y. Raheja', with a stylized flourish at the end.

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